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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,364	04/29/2004	James Wlos	4023	3363

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EXAMINER
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LEON, EDWIN A

ART UNIT	PAPER NUMBER
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2833

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/709,364

Applicant(s)

WLOS ET AL.

Examiner

Edwin A. León

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's Amendment filed April 6, 2006 in which Claims 1 and 26 have been amended, has been placed of record in the file.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Haller et al. (U.S. Patent No. 6,149,448). With regard to Claim 18, Haller et al. (Figs. 1-7) discloses a connector interface between a female connector (15) with an outer diameter surface (Fig. 2) and a bore (Fig. 2) with an inner diameter surface (inside 15) and a male connector (12), comprising: a plurality of outer spring fingers (parts of 36 in which 74 are located) formed in a leading edge of the male connector; and a first spring (41) electrically coupled to the male connector; the plurality of outer spring fingers biased to engage an outer diameter surface of the female connector; the first spring adapted to engage the inner diameter surface of the bore.

With regard to Claim 19, Haller et al. (Figs. 1-7) discloses the first spring being located by a first groove (Fig. 9) formed in an outer diameter of a sleeve within the male connector.

With regard to Claim 20, Haller et al. (Figs. 1-7) discloses the first spring having a plurality of deflectable protrusions (parts formed between slits 46-48).

With regard to Claim 21, Haller et al. (Figs. 1-7) discloses the first spring having a plurality of spring fingers (parts formed between slits 46-48).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 9-10 and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guimond et al. (U.S. Patent No. 4,941,846) in view of Nelson (U.S. Patent No. 5,454,735). With regard to Claims 1-4 and 9, Guimond et al. (Figs. 1-4) discloses a connector interface for connecting to a cylindrical female connector body (12) having an outer diameter surface (Fig. 4) and a bore (Fig. 4) with an inner diameter surface (Fig. 4), comprising: a male connector body (18, 14, 30.1) with a plurality of outer spring fingers (30.1) biased for an interference fit upon the outer diameter surface;

a front end portion of a sleeve (20) of the male connector body adapted to insert within the bore.

However, Guimond et al. doesn't show a first spring located on an outer diameter of the sleeve, the first spring dimensioned for compression between the inner diameter surface of the bore and the outer diameter of the sleeve, the first spring contacting the inner diameter surface upon mating of the male connector body with the female connector body, the first spring being located by a first groove formed in the outer diameter of the sleeve, the first spring being a canted coil spring.

Nelson teaches (in Fig. 1) a similar connector having a first spring (11) located on an outer diameter of the sleeve (Fig. 1), the first spring dimensioned for compression between the inner diameter surface of the bore (Fig. 1) and the outer diameter of the sleeve, the first spring contacting the inner diameter surface upon mating of the male connector body (64) with the female connector body (13), the first spring being located by a first groove (80) formed in the outer diameter of the sleeve, the first spring being a canted coil spring (11).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the connector of Guimond et al. by including a first spring located on an outer diameter of the sleeve, the first spring dimensioned for compression between the inner diameter surface of the bore and the outer diameter of the sleeve, the first spring contacting the inner diameter surface upon mating of the male connector body with the female connector body, the first spring being located by a first groove formed in the outer diameter of the sleeve, the first spring being a canted

coil spring as taught in Nelson in order to prevent the male and female from becoming separated unless the cables are subjected to substantial tensile forces (Nelson, Column 2, Lines 60-65).

The limitation "the first spring is dimensioned whereby the first spring elastically deforms between the sleeve and the inner diameter surface upon mating of the male connector body with the female connector body has been given little patentable weight since it has been held that the functional language "whereby" statement does not define any structure and accordingly can not serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

With regard to Claims 10 and 12-13, the combination of Guimond et al. and Nelson discloses the claimed invention as shown above except for a second groove located around the plurality of outer spring rings, a second spring positioned in the second groove biasing the plurality of outer spring fingers inward, the female connector has a third groove located on the inner diameter surface; the third groove adapted to align with the first groove when the male connector body is seated against the female connector and the third groove adapted to receive an inner diameter contacting portion of the first spring when the male connector body is seated against the female connector.

Still, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a second groove located around the plurality of outer spring rings, a second spring positioned in the second groove biasing the plurality of outer spring fingers inward, the female connector having a third groove located on the inner diameter surface; the third groove adapted to align with the first groove when the

male connector body is seated against the female connector and the third groove adapted to receive an inner diameter contacting portion of the first spring when the male connector body is seated against the female connector, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With regard to Claim 14, Guimond et al. (Figs. 1-4) discloses an inner conductor contact (70) positioned coaxially within a sleeve bore (74) by an insulator (72).

With regard to Claim 15, Guimond et al. (Figs. 1-4) discloses each of the plurality of outer spring fingers having an angled face (54).

With regard to Claim 16, Guimond et al. (Figs. 1-4) discloses the sleeve is formed as a separate component press-fit into place within the male connector body.

With regard to Claim 17, Guimond et al. (Figs. 1-4) discloses the sleeve being press-fit within the male connector body up to an internally projecting shoulder (84) of the male connector body.

6. Claims 5-8 and 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guimond et al. (U.S. Patent No. 4,941,846) in view of Nelson (U.S. Patent No. 5,454,735) in further view of Plummer et al. (U.S. Patent No. 6,650,209). The combination of Guimond and Nelson discloses the claimed invention as shown above except for the first spring being a spring finger ring having a plurality of spring fingers projecting outward from a collar, a radius being formed in a leading edge of each spring

finger, the collar being dimensioned for press-fit mounting to the outer diameter of the sleeve, the first spring being a ring having a plurality of deflectable protrusions.

Plummer et al. teaches a similar connector having a first spring (36) being a spring finger ring (Column 3, Lines 42-45) having a plurality of spring fingers (Fig. 7) projecting outward from a collar (flat part of 36 shown in Fig. 7), a radius being formed in a leading edge of each spring finger, the collar being dimensioned for press-fit mounting to the outer diameter of the sleeve (30), the first spring being a ring (Column 3, Lines 42-45) having a plurality of deflectable protrusions (Fig. 7).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the connector of Guimond and Nelson by including the a first spring being a spring finger ring having a plurality of spring fingers projecting outward from a collar, a radius being formed in a leading edge of each spring finger, the collar being dimensioned for press-fit mounting to the outer diameter of the sleeve, the first spring being a ring having a plurality of deflectable protrusions as taught in Plummer et al. in order to provide suitable contact force providing a desired electrical connection between the parts of the connector (Plummer et al., Column 4, Lines 20-24).

Regarding Claim 29, the limitation "the spring ring is formed by one of machining, stamping, forming, and injection molding" has been given little patentable weight since the method of forming the device is not germane to the issue of patentability of the device itself.



7. Claims 22 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haller et al. (U.S. Patent No. 6,149,448) in view of Maury (U.S. Patent No. 6,210,221). Haller et al. discloses the claimed invention except for a second groove located around the plurality of outer spring fingers; a second spring positioned in the second groove biasing the plurality of outer spring fingers inward and the female connector being one of an SMA and a Type N connector.

Maury (Figs. 3-4) discloses a similar connector having a second groove (where 20 is located) located around a plurality of outer spring fingers (15); a second spring (20) positioned in the second groove biasing the plurality of outer spring fingers inward and the female connector being one of an SMA (Column 1, Lines 42-46) and a Type N connector (Column 1, Lines 54-58).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the connector of Haller et al. by including a second groove located around the plurality of outer spring fingers; a second spring positioned in the second groove biasing the plurality of outer spring fingers inward and the female connector being one of an SMA and a Type N connector as taught in Maury in order to provide quick connect/disconnect coaxial electrical connections.

8. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guimond et al. (U.S. Patent No. 4,941,846) in view of Nelson (U.S. Patent No. 5,454,735) in further view of Maury (U.S. Patent No. 6,210,221). The combination of

Guimond and Nelson discloses the claimed invention as shown above except for the female connector being one of an SMA and a Type N connector.

Maury (Figs. 3-4) discloses a similar connector having a second groove (where 20 is located) located around a plurality of outer spring fingers (15); a second spring (20) positioned in the second groove biasing the plurality of outer spring fingers inward and the female connector being one of an SMA (Column 1, Lines 42-46) and a Type N connector (Column 1, Lines 54-58).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the interface of Hall et al. by the female connector being one of an SMA and a Type N connector as taught in Applicant's admitted prior art in order to make the connector more versatile.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haller et al. (U.S. Patent No. 6,149,448). Haller et al. discloses the claimed invention except for a third groove adapted to engage the first spring is located on the inner diameter surface of the bore.

Still, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a third groove adapted to engage the first spring is located on the inner diameter surface of the bore, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

### ***Response to Arguments***

10. Applicant's arguments with respect to claims 1-17 and 26-29 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant's arguments filed April 6, 2006 have been fully considered but they are not persuasive. In response to Applicant's arguments regarding Claim 18 that the Haller et al. reference doesn't show the first spring adapted to engage the inner diameter surface, Applicant is reminded that it has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138. Applicant is also reminded that the claim does not recite the spring as directly or electrically contacting the inner diameter surface. Therefore, it is the Examiner's opinion that the claims are broad enough to read on the Haller et al. reference.

### ***Conclusion***

12. **THIS ACTION IS MADE FINAL** necessitated by amendment. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

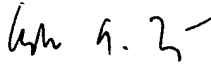
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin A. León whose telephone number is (571) 272-2008. The examiner can normally be reached on Monday - Friday 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571-272-2800, extension 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Edwin A. Leon  
AU 2833

EAL  
June 11, 2006

  
TRUC T. NGUYEN  
PRIMARY EXAMINER